

What is claimed is:

1 1. A washing machine having a sensor unit installed with respect to an outer tub
2 for holding water, the washing machine comprising:

3 a microcomputer having an input port receiving an applied voltage, the input port
4 electrically connected to a supply voltage;

5 first and second electrodes, installed so as to be submerged in the water of the outer
6 tub, wherein said first electrode is electrically connected to the supply voltage and said second
7 electrode is electrically connected to ground, to thereby generate the applied voltage for input
8 to the input port of said microcomputer;

9 a spherical conductor disposed adjacent to said electrodes; and

10 support means for supporting said spherical conductor.

1 2. The washing machine as claimed in claim 1, wherein said first and second
2 electrodes are installed such that a predetermined gap is maintained between said electrodes,
3 to measure a contaminant in the water of the outer tub.

1 3. The washing machine as claimed in claim 2, wherein an electrical short is
2 created between said electrodes by a displacement of said spherical conductor when a state of
3 imbalance exists in the washing machine.

1 4. The washing machine as claimed in claim 1, wherein said support means has
2 opposing sides for supporting said spherical conductor, the opposing sides being inclined at a
3 predetermined angle, and wherein said spherical conductor rests within said support means

- 4 while the washing machine is in a balanced state and is displaced by a state of imbalance.